

Date: Thu, 25 Nov 93 08:35:09 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #1386
To: Info-Hams

Info-Hams Digest Thu, 25 Nov 93 Volume 93 : Issue 1386

Today's Topics:

 [Question] QSL route
 ANARTS RTTY NEWS786 21/11/93
 Miss Manners in the Novice Sub-bands?
 ORBS\$328.2L.AMSAT
 ORBS\$328.MICRO.AMSAT
 ORBS\$328.MISC.AMSAT
 ORBS\$328.OSCAR.AMSAT
 ORBS\$328.WEATH.AMSAT

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 19 Nov 1993 17:18:51 GMT
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!usc!sdd.hp.com!hpscit.sc.hp.com!
cupnews0.cup.hp.com!news1.boi.hp.com!hp-pcd!hpcvsnz!charlier@network.ucsd.edu
Subject: [Question] QSL route
To: info-hams@ucsd.edu

Hidekazu Noguchi (63d048@cfi.waseda.ac.jp) wrote:

: This is a list of stations which I made qso in
: 1991-1992 but I couldn't find QSL route. Please
: let me know if you have any info.

EA9EA EA7LQ
H44IO(=NOW=>) Y58IO
HI3AB/HI9 HI3ADI

P40J WX4G
PJ9X(WPXCW93) OH1VL (Don't know about 91/92)
TU4SR OH8SR
JP1TRJ/V85HG JP1TRJ
VP2E << Are you sure there's not more to the call than this? VP2E is the
 prefix for Anguilla...
Z21HS P.O. Box 4110, Harare, Zimbabwe
ZD8DX(93) WF5T (this is all I have)

Most of the above info is from the "QSL Routes - World Annual of QSL Managers."
available on ftp-server ftp.tu-ilmenau.de, login:ftp,
path: /pub/msdos/ham/qsrlroutes.

--

Charlie Panek KX7L Hewlett Packard Company
charlier@lsid.hp.com Lake Stevens Instrument Division
 Everett, Washington

Date: 24 Nov 93 03:20:58 GMT
From: munnari.oz.au!metro!news.ci.com.au!eram!dave@network.ucsd.edu
Subject: ANARTS RTTY NEWS786 21/11/93
To: info-hams@ucsd.edu

[ANARTS - Australian National Amateur Radio Teletype Society]

ANARTS NEWS BULLETIN 786 21/11/93

SUNDAY TRANSMISSION SCHEDULE ..
 3.545 mhz 0930 utc VK2BQS (Jim)
 7.045 mhz -3 0030 utc VK2CTD (COL)
 14.070 mhz (amtor/fec) 0030 utc VK2DPM (ALAN)
 14.091 mhz 0030 utc VK2BQS (JIM)
 146.675 mhz 0030/0930 utc VK2JPA (PAT)
 144.850 mhz (ax25 bbs) VK2JPA AT VK2RWI
 146.675 mhz (rtty mmbbs/repeater) VK2RTY

Views expressed in this news bulletin are not necessarily
those of the Broadcast Officer, the Relay Officers, or of the
Society.

20M FEC relay back

=====

If you have AMTOR capability, you might like to try listening
on or around 14.070 MHz from this date. We have Alan back with
us as a relay officer now he has his antennas up again. Give
Alan a welcome back to the team.

A bulletin about Syd VK2SG

=====

Syd is improved in health but restricted in movement, so if you have not heard him on air it is because it is a long trip to the shack for him. There is some talk of resiting the shack to make it easier, but that is just a suggestion at the moment. He is bright and chipper and sends a hello to all. Bit of a pain when the body mechanism lets one down and spoils the hobby.

Anyway, Syd has had a pet project under way for some two years and it has come to fruition so he would like all to know about it. Read on ...

Attention Volunteer Coastal Patrol operators

=====

The Royal Blind Society of New South Wales, in conjunction with the Maritime Services, have produced a tape which consists of frequencies, times and weather forecasts together with ocean conditions, traffic, and many other services which have reference to shipping operations (including safety) that are normally broadcast by the Maritime Services (O.T.C.).

This tape has been produced to assist the blind or dyslectic operators that are assisting with the operations of the Volunteer Coastal Patrol services throughout Australia. The tape is a C60 twin track cassette and is available from the Royal Blind Society of New South Wales for a slight cost.

Please direct all enquiries to Jim Bates at the Royal Blind Society of New South Wales, phone (02) 334 3333, 4 Mitchell Street Enfield Sydney.

VK9LI QSL Manager?

=====

Recently there was a DXpedition to Lord Howe Island using the callsign VK9LI. This took place over 30th to 31st October and was on phone on SSB, all bands.

The problem is ... the last registered QSL manager for this callsign was Syd VK2SG who knows nothing of this latest use of the callsign. Syd (and Bill VK2EG) has received about thirty QSL cards and do not know where to forward them. If no new QSL manager or forwarding information is forthcoming, then the

cards will be returned to sender.

Does anyone know who is the QSL manager or who was operating the callsign VK9LI on those days? It will be disappointing for all those involved if all they have are their cards returned.

Please send any answer to S. Molen 13 Pendle Way Pendle Hill 2145, phone (02) 631 2576. If you would rather packet it, send to VK2JPA at VK2RWI and I will be happy to forward it to Syd.

IPS weekly report

12 November - 18 November 1993

Issue no.: 47

Date of issue: 19 November 1993

Date	12	13	14	15	16	17	18
10cm	91	94	94	102	100	100	103
A	04	06	09	10	10	04	(20 estimated)
T	24	56	63	47	63	75	47

Summary of activity

Solar activity was moderate 12th-13th November, very low 14th-17th, and low on 18th. An M2 flare was reported on 12th, and one M2 and one M1 flare on 13th.

The geomagnetic field at Learmonth (WA) was quiet on 12th, quiet to unsettled 13th-17th except for a brief active period on 14th November. The field on 18th was at storm levels following a sudden commencement of 42 nT at 1210 UT.

Ionospheric F2 critical frequencies at Sydney on 12th were up to 15 per cent depressed with strong sporadic E at night, returning to near predicted monthly values 13th-16th. On 17th frequencies were about 15 per cent above predicted monthly values, continuing on 18th until local night when frequencies became depressed by up to 30 per cent.

Forecast for the next week (19 - 25 November)

Solar : Low to moderate. One solar region currently shows potential for low level M class flares.

Geomagnetic: Active levels are expected on the 19th as the

disturbance which began on the 18th declines. A disturbance is also expected for the 23rd with major storms possible.

Ionospheric: Degraded HF conditions are expected for 19th and 23rd.

Courtesy of IPS Radio and Space Services

VK2SG RTTY DX Notes, 12 November

VK2SG RTTY DXNotes for weekending 12 Nov. 1993 (BID RTDX1112)

The DXAC has on its agenda an upcoming vote before the end of this year, "RTTY Honor Roll." Ballots have been mailed out by the vice chairman, Charlie Summers Jr, KY0A and are due back to him from the committee on 29 November. The justification for RTTY Honor Roll still remains. RTTY or digital radio is the fastest growing mode of ham radio. RTTY contests are becoming increasingly popular. Honor roll is a logical goal, as it is with phone and CW. Many who have reached the top on other modes are turning to RTTY for new challenges. This vote is very important to all! The time is now! Please spread the word and let your feelings be heard. Write to your DXAC rep and to DXAC Chairman W4VQ, Robert Beatty III, 11 Heritage Cove Court, Casselberry FL 32707. After all, we do have DXCC for RTTY. Why not Honor Roll?

Our information this week came from 9X5LJ, DJ3IW and the DB0BCC Cluster Node, I5FLN, IK5AAX, SP5AA, WA1MPB, W2JGR and the NJ0M node Twin-Cities DX Packet Cluster Network, W5KSI, ZS5S. Thank you all for your assistance.

Bandpass

Friday 5

1448-14085	UN7LR	1641-14083	YL2KF
1728-14090	FR5GS	1850-14092	EA6NB
1858-14084	5K3W	Bogota QSL	HK3SGP
1958-14088	TT80B0	QSL up QSL	W40B0
2135-14085	J88BS	QSL WA4WIP	2238-14083 HP1XBH

Saturday 6

0801-14087	XT2BW	0920-14080	YI1AZ
0946-14085	HL9KU	1252-21081	Z21HS
1312-14084	UN7LR	1324-21084	5N/DF8QB
1400-21088	A61AF	1406-14087	3A2LZ
1430-21082	ZD8M	1508-21088	FG5FI

1511-14091	CN8BX	1541-21085	3X0DEX
1613-21087	XE1/JA1QXY	QSL JH1HGY	
1617-21087	EA6VU	1850-21085	TY1PS
2256-14084	HK0DPA	2344-14083	TY1PS

Sunday 7

0705-14083	CX5BW	0708-14088	ET3SID
0820-14082	SU1AH	0954-14088	5B4UX
0955-14093	ES4MM	1014-14082	PJ2MI
1020-14086	YI1AZ	QSL P.O.Box 55195, 12001 Bagdad, Iraq	
1120-28089	5N/DF8QB	1151-14089	UL8GC/RM2M
1530-21084	HJ4SAN	1152-14088	HL5AWS
1303-14090	3A2LZ		
1520-14089	UM8MU	1628-14082	NP2G
1659-14089	EA6NB	1755-14084	HK0DPA

Monday 8

2137-14085	3X0DEX	2146-14087	J88BS
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Tuesday 9

1226-14088	CT1ENG	1421-14088	SV5AZK
1613-14087	ET3SID	1621-14083	FR5GS
2222-14090	FG5FI		

Wednesday 10

0226-14085	CX7BF	0610-14081	YI1AZ
111-91086	CU3EM	1338-21084	FR5DX
1351-14080	VQ9TV	QSL W4TV	1415-21087
1507-14066	SU1AH	ARQ	7Q7LA QSL G0IAS
1618-14091	OM3JW	1548-14084	UJ8JMM
1737-14086	5R8DG	1620-14086	EA6NB
2246-14085	VK6HD	2230-14087	S92ZM
		2250-14084	5N/DF8QB

Thursday 11

1244-14082	OH0BBF	1635-21086	CU1AC QSL W2FXA
1919-14082	NL7VX	2018-14085	TL8NG QSL WA1ECA

Notes of Interest:

Mellish Reef, VK9MM. The QSLs for this DXPedition will be mailed in January, not December as previously announced.

Bill, VK4CRR will be QRV on Christmas Island, 1-11 December and he was asked by his post office to avoid the Christmas mail rush.

For next week's Bulletin, send your Bandpass and Notes of Interest to Jules, W2JGR @ W2TKU.#SRQ.FL.USA.NA

Remember, DX Don't Sleep.
GL DE BOB, WB2CJL @ W5KSI.}NOLA.LA.USA.NA

Coming events

December 3rd ANARTS meeting

Society information

The Society may be contacted at : PO Box 860, Crows Nest 2065 Australia, for such matters as membership and general enquiries. Enquiries can also be made by packet to the President (Col) VK2CTD, or the Secretary (Pat) VK2JPA @ VK2RWI.

News items may be sent to Broadcast Officer PO Box 60 Blacktown 2148 Australia, or by packet to VK2JPA @ VK2RWI.

The Internet address for the Broadcast Officer is :

patl@extro.ucc.su.oz.au

The Society welcomes news items on any digital subjects from anywhere in the broadcast footprint. We are looking forward to news from your areas to let other amateurs know what you are doing in the hobby. Hope to hear from you.

73s de Pat VK2JPA Broadcast Officer
That concludes ANARTS News 786 21/11/93.
Inserted by VK2BQS (Jim) Vice-President A.N.A.R.T.S.

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Dave Horsfall (VK2KFU) VK2KFU @ VK2RWI.NSW.AUS.OC PGP 2.3
dave@esi.COM.AU ...munnari!esi.COM.AU!dave available

Date: Tue, 23 Nov 1993 12:15:17 -0500
From: ucsnews!sol.ctr.columbia.edu!hamblin.math.byu.edu!yvax.byu.edu!cunyvml
rohvm1!rohvm1.mah48d@network.ucsd.edu
Subject: Miss Manners in the Novice Sub-bands?
To: info-hams@ucsd.edu

In article <1993Nov23.110449.29254@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
(Gary Coffman) wrote, in part:

>

> Well let's see what my Thorndike and Barnhart has to say about the
> matter.
>
> Morse Code, a system by which letters, numbers, punctuation, and...

> There's a footnote near the chart of Morse encodings noting
> it's an obsolete form primarily used by telegraphers prior to modern
> times.

Remind me not to get a Thorndike and Barnhart dictionary, if they really
think Morse is obsolete.

(Flame away, gang. I'm wearing asbestos gloves at the keyboard.)

73 de John, W3ZID

Date: 25 Nov 93 03:29:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$328.2L.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-328.N
2Line Orbital Elements 328.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM WA5QGD FORT WORTH,TX November 24, 1993
BID: \$ORBS-328.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:

1 AAAAAU 00 0 0 BBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

A0-10

1 14129U 83058B 93321.57691393 -.00000112 00000-0 10000-3 0 2118
2 14129 27.1956 355.7539 6019652 131.0023 299.1524 2.05880635 78414
U0-11

1 14781U 84021B 93325.57000090 .00000269 00000-0 49738-4 0 6134
2 14781 97.7960 344.9183 0010964 210.4629 149.5959 14.69087530519827
RS-10/11

1 18129U 87054A 93325.49625370 .00000016 00000-0 10683-4 0 8137
2 18129 82.9207 122.3575 0010357 239.9809 120.0325 13.72326180321420

AO-13

1	19216U	88051B	93324.87971886	-.000000221	000000-0	10000-4	0	8154
2	19216	57.8676	283.0185	7211074	328.8644	3.5221	2.09724867	41647

FO-20

1	20480U	90013C	93325.97912877	-.000000005	000000-0	14514-4	0	6104
2	20480	99.0202	152.1718	0541163	89.0188	277.2925	12.83222068177550	

AO-21

1	21087U	91006A	93327.46610100	.000000084	000000-0	82657-4	0	3703
2	21087	82.9432	294.9482	0034102	299.3528	60.4149	13.74528481141311	

RS-12/13

1	21089U	91007A	93327.59616256	.000000030	000000-0	25224-4	0	6147
2	21089	82.9217	163.9135	0028927	323.6427	36.2770	13.74030145140417	

ARSENE

1	22654U	93031B	93321.93138545	-.000000051	000000-0	10000-3	0	2108
2	22654	1.4185	113.8817	2935300	161.0091	211.2000	1.42195961	2757

UO-14

1	20437U	90005B	93324.75934626	.000000124	000000-0	55928-4	0	9139
2	20437	98.6041	47.2419	0011859	83.0955	277.1590	14.29805061199801	

AO-16

1	20439U	90005D	93324.68304767	.000000084	000000-0	40260-4	0	7136
2	20439	98.6140	48.1917	0012184	83.5887	276.6705	14.29861812199805	

DO-17

1	20440U	90005E	93325.21733703	.000000109	000000-0	50018-4	0	7134
2	20440	98.6142	48.9764	0012282	81.4113	278.8478	14.29999401199891	

WO-18

1	20441U	90005F	93324.69934066	.000000081	000000-0	39080-4	0	7147
2	20441	98.6145	48.4799	0012824	83.2364	277.0290	14.29976777199825	

LO-19

1	20442U	90005G	93325.67080327	.000000099	000000-0	46017-4	0	7135
2	20442	98.6146	49.6483	0013250	80.8874	279.3806	14.30069500199976	

UO-22

1	21575U	91050B	93325.62459097	.000000132	000000-0	51577-4	0	4135
2	21575	98.4563	39.0920	0007330	184.4976	175.6161	14.36866978123272	

KO-23

1	22077U	92052B	93325.56659606	.000000000	000000-0	10000-3	0	3102
2	22077	66.0893	354.6876	0005267	339.3077	20.7715	12.86281948	60088

AO-27

1	22825U	93061C	93325.63865674	.000000077	000000-0	39483-4	0	2128
2	22825	98.6761	38.3168	0009527	93.6148	266.6130	14.27591127	8079

IO-26

1	22826U	93061D	93325.63461159	.000000078	000000-0	39608-4	0	2130
2	22826	98.6764	38.3197	0010035	94.7836	265.4492	14.27693538	8074

KO-25

1	22830U	93061H	93324.71104890	.000000103	000000-0	49277-4	0	2131
2	22830	98.5779	36.8642	0012529	68.2759	291.9752	14.28017671	7949

NOAA-9

1	15427U	84123A	93321.67817478	.000000105	000000-0	66146-4	0	6128
2	15427	99.0821	4.3682	0015882	95.7490	264.5523	14.13562457460466	

NOAA-10

1 16969U 86073A 93323.68554173 .000000096 00000-0 49118-4 0 5105
2 16969 98.5133 334.0643 0012433 218.5417 141.4895 14.24844816372776

MET-2/17

1 18820U 88005A 93324.77430959 .000000066 00000-0 53393-4 0 2122
2 18820 82.5425 74.3748 0017761 49.3727 310.8980 13.84697976293513

MET-3/2

1 19336U 88064A 93327.88606867 .000000043 00000-0 10000-3 0 2131
2 19336 82.5382 108.9623 0018510 57.6406 302.6575 13.16961911256238

NOAA-11

1 19531U 88089A 93323.67891070 .000000156 00000-0 94238-4 0 4100
2 19531 99.1515 302.7055 0012244 5.6990 354.4307 14.12933644265630

MET-2/18

1 19851U 89018A 93325.42782422 .000000019 00000-0 11488-4 0 2138
2 19851 82.5192 309.5566 0015904 88.4579 271.8419 13.84349155238948

MET-3/3

1 20305U 89086A 93326.70726297 .000000043 00000-0 10000-3 0 9153
2 20305 82.5547 53.0394 0017057 80.9974 279.2674 13.16023734195950

MET-2/19

1 20670U 90057A 93325.62861582 .000000015 00000-0 79036-5 0 7136
2 20670 82.5482 13.3392 0016493 14.8236 345.3422 13.84182354171904

FY-1/2

1 20788U 90081A 93325.69890385 .000000280 00000-0 20817-3 0 8184
2 20788 98.8527 347.3415 0014034 231.3920 128.6001 14.01337309164645

MET-2/20

1 20826U 90086A 93325.46973098 .000000030 00000-0 21632-4 0 7123
2 20826 82.5229 311.2459 0011806 272.8085 87.1723 13.83564132159033

MET-3/4

1 21232U 91030A 93327.43445415 .000000043 00000-0 10000-3 0 6175
2 21232 82.5444 315.0567 0013262 341.2576 18.8056 13.16458338124285

NOAA-12

1 21263U 91032A 93323.56678881 .000000168 00000-0 84215-4 0 8176
2 21263 98.6421 350.7456 0013768 121.7860 238.4659 14.22334412130733

MET-3/5

1 21655U 91056A 93327.30300481 .000000043 00000-0 10000-3 0 6148
2 21655 82.5541 262.1324 0013850 356.1728 3.9270 13.16825241109368

MET-2/21

1 22782U 93055A 93325.65877278 .000000101 00000-0 87052-4 0 2121
2 22782 82.5509 10.8972 0023907 87.2237 273.1663 13.82992586 11406

MIR

1 16609U 86017A 93327.79016587 .000007671 00000-0 10427-3 0 5962
2 16609 51.6171 137.6286 0005040 20.3514 339.7798 15.58667160443992

HUBBLE

1 20580U 90037B 93326.53889941 .000000818 00000-0 69765-4 0 3644
2 20580 28.4673 123.5668 0004218 266.1154 93.8990 14.92930899195195

GRO

1 21225U 91027B 93323.10592449 .00016589 00000-0 17587-3 0 2235
2 21225 28.4613 251.4109 0075125 111.9850 248.8518 15.58788576 24490

UARS

1 21701U 91063B 93320.80422262 -.00001889 00000-0 -15578-3 0 4142
2 21701 56.9838 290.0183 0005706 92.3355 267.8337 14.96177320119131

POSAT

1 22829U 93 61 G 93289.11726978 .00000072 00000-0 37231-4 0 2042
2 22829 98.6763 2.0610 0010043 184.4594 175.6498 14.27975951 2862

/EX

Date: 25 Nov 93 03:21:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$328.MICRO.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-328.D
Orbital Elements 328.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH, TX November 24, 1993
BID: \$ORBS-328.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time: 93324.75934626
Element set: 913
Inclination: 98.6041 deg
RA of node: 47.2419 deg
Eccentricity: 0.0011859
Arg of perigee: 83.0955 deg
Mean anomaly: 277.1590 deg
Mean motion: 14.29805061 rev/day
Decay rate: 1.24e-06 rev/day^2
Epoch rev: 19980
Checksum: 317

Satellite: AO-16
Catalog number: 20439
Epoch time: 93324.68304767
Element set: 713
Inclination: 98.6140 deg
RA of node: 48.1917 deg
Eccentricity: 0.0012184
Arg of perigee: 83.5887 deg
Mean anomaly: 276.6705 deg
Mean motion: 14.29861812 rev/day
Decay rate: 8.4e-07 rev/day^2

Epoch rev: 19980
Checksum: 336

Satellite: D0-17

Catalog number: 20440
Epoch time: 93325.21733703
Element set: 713
Inclination: 98.6142 deg
RA of node: 48.9764 deg
Eccentricity: 0.0012282
Arg of perigee: 81.4113 deg
Mean anomaly: 278.8478 deg
Mean motion: 14.29999401 rev/day
Decay rate: 1.09e-06 rev/day²
Epoch rev: 19989
Checksum: 326

Satellite: W0-18

Catalog number: 20441
Epoch time: 93324.69934066
Element set: 714
Inclination: 98.6145 deg
RA of node: 48.4799 deg
Eccentricity: 0.0012824
Arg of perigee: 83.2364 deg
Mean anomaly: 277.0290 deg
Mean motion: 14.29976777 rev/day
Decay rate: 8.1e-07 rev/day²
Epoch rev: 19982
Checksum: 348

Satellite: L0-19

Catalog number: 20442
Epoch time: 93325.67080327
Element set: 713
Inclination: 98.6146 deg
RA of node: 49.6483 deg
Eccentricity: 0.0013250
Arg of perigee: 80.8874 deg
Mean anomaly: 279.3806 deg
Mean motion: 14.30069500 rev/day
Decay rate: 9.9e-07 rev/day²
Epoch rev: 19997
Checksum: 329

Satellite: U0-22

Catalog number: 21575
Epoch time: 93325.62459097

Element set: 413
Inclination: 98.4563 deg
RA of node: 39.0920 deg
Eccentricity: 0.0007330
Arg of perigee: 184.4976 deg
Mean anomaly: 175.6161 deg
Mean motion: 14.36866978 rev/day
Decay rate: 1.32e-06 rev/day^2
Epoch rev: 12327
Checksum: 322

Satellite: K0-23
Catalog number: 22077
Epoch time: 93325.56659606
Element set: 310
Inclination: 66.0893 deg
RA of node: 354.6876 deg
Eccentricity: 0.0005267
Arg of perigee: 339.3077 deg
Mean anomaly: 20.7715 deg
Mean motion: 12.86281948 rev/day
Decay rate: .000000000 rev/day^2
Epoch rev: 6008
Checksum: 303

Satellite: A0-27
Catalog number: 22825
Epoch time: 93325.63865674
Element set: 212
Inclination: 98.6761 deg
RA of node: 38.3168 deg
Eccentricity: 0.0009527
Arg of perigee: 93.6148 deg
Mean anomaly: 266.6130 deg
Mean motion: 14.27591127 rev/day
Decay rate: 7.7e-07 rev/day^2
Epoch rev: 807
Checksum: 323

Satellite: I0-26
Catalog number: 22826
Epoch time: 93325.63461159
Element set: 213
Inclination: 98.6764 deg
RA of node: 38.3197 deg
Eccentricity: 0.0010035
Arg of perigee: 94.7836 deg
Mean anomaly: 265.4492 deg

Mean motion: 14.27693538 rev/day
Decay rate: 7.8e-07 rev/day^2
Epoch rev: 807
Checksum: 329

Satellite: K0-25
Catalog number: 22830
Epoch time: 93324.71104890
Element set: 213
Inclination: 98.5779 deg
RA of node: 36.8642 deg
Eccentricity: 0.0012529
Arg of perigee: 68.2759 deg
Mean anomaly: 291.9752 deg
Mean motion: 14.28017671 rev/day
Decay rate: 1.03e-06 rev/day^2
Epoch rev: 794
Checksum: 315

/EX

Date: 25 Nov 93 03:27:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$328.MISC.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-328.M
Orbital Elements 328.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM WA5QGD FORT WORTH,TX November 24, 1993
BID: \$ORBS-328.M
TO ALL RADIO AMATEURS BT

Satellite: MIR
Catalog number: 16609
Epoch time: 93327.79016587
Element set: 596
Inclination: 51.6171 deg
RA of node: 137.6286 deg
Eccentricity: 0.0005040
Arg of perigee: 20.3514 deg
Mean anomaly: 339.7798 deg
Mean motion: 15.58667160 rev/day
Decay rate: 7.671e-05 rev/day^2
Epoch rev: 44399

Checksum: 336

Satellite: HUBBLE

Catalog number: 20580

Epoch time: 93326.53889941

Element set: 364

Inclination: 28.4673 deg

RA of node: 123.5668 deg

Eccentricity: 0.0004218

Arg of perigee: 266.1154 deg

Mean anomaly: 93.8990 deg

Mean motion: 14.92930899 rev/day

Decay rate: 8.18e-06 rev/day²

Epoch rev: 19519

Checksum: 342

Satellite: GRO

Catalog number: 21225

Epoch time: 93323.10592449

Element set: 223

Inclination: 28.4613 deg

RA of node: 251.4109 deg

Eccentricity: 0.0075125

Arg of perigee: 111.9850 deg

Mean anomaly: 248.8518 deg

Mean motion: 15.58788576 rev/day

Decay rate: 1.6589e-04 rev/day²

Epoch rev: 2449

Checksum: 315

Satellite: UARS

Catalog number: 21701

Epoch time: 93320.80422262

Element set: 414

Inclination: 56.9838 deg

RA of node: 290.0183 deg

Eccentricity: 0.0005706

Arg of perigee: 92.3355 deg

Mean anomaly: 267.8337 deg

Mean motion: 14.96177320 rev/day

Decay rate: -1.889e-05 rev/day²

Epoch rev: 11913

Checksum: 296

Satellite: POSAT

Catalog number: 22829

Epoch time: 93289.11726978

Element set: 204

Inclination: 98.6763 deg
RA of node: 2.0610 deg
Eccentricity: 0.0010043
Arg of perigee: 184.4594 deg
Mean anomaly: 175.6498 deg
Mean motion: 14.27975951 rev/day
Decay rate: 7.2e-07 rev/day^2
Epoch rev: 286
Checksum: 317

/EX

Date: 25 Nov 93 03:18:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$328.OSCAR.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-328.0
Orbital Elements 328.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH,TX November 24, 1993
BID: \$ORBS-328.0
TO ALL RADIO AMATEURS BT

Satellite: A0-10
Catalog number: 14129
Epoch time: 93321.57691393
Element set: 211
Inclination: 27.1956 deg
RA of node: 355.7539 deg
Eccentricity: 0.6019652
Arg of perigee: 131.0023 deg
Mean anomaly: 299.1524 deg
Mean motion: 2.05880635 rev/day
Decay rate: -1.12e-06 rev/day^2
Epoch rev: 7841
Checksum: 293

Satellite: U0-11
Catalog number: 14781
Epoch time: 93325.57000090
Element set: 613
Inclination: 97.7960 deg
RA of node: 344.9183 deg
Eccentricity: 0.0010964

Arg of perigee: 210.4629 deg
Mean anomaly: 149.5959 deg
Mean motion: 14.69087530 rev/day
Decay rate: 2.69e-06 rev/day^2
Epoch rev: 51982
Checksum: 327

Satellite: RS-10/11
Catalog number: 18129
Epoch time: 93325.49625370
Element set: 813
Inclination: 82.9207 deg
RA of node: 122.3575 deg
Eccentricity: 0.0010357
Arg of perigee: 239.9809 deg
Mean anomaly: 120.0325 deg
Mean motion: 13.72326180 rev/day
Decay rate: 1.6e-07 rev/day^2
Epoch rev: 32142
Checksum: 279

Satellite: A0-13
Catalog number: 19216
Epoch time: 93324.87971886
Element set: 815
Inclination: 57.8676 deg
RA of node: 283.0185 deg
Eccentricity: 0.7211074
Arg of perigee: 328.8644 deg
Mean anomaly: 3.5221 deg
Mean motion: 2.09724867 rev/day
Decay rate: -2.21e-06 rev/day^2
Epoch rev: 4164
Checksum: 324

Satellite: F0-20
Catalog number: 20480
Epoch time: 93325.97912877
Element set: 610
Inclination: 99.0202 deg
RA of node: 152.1718 deg
Eccentricity: 0.0541163
Arg of perigee: 89.0188 deg
Mean anomaly: 277.2925 deg
Mean motion: 12.83222068 rev/day
Decay rate: -5.0e-08 rev/day^2
Epoch rev: 17755
Checksum: 307

Satellite: A0-21
Catalog number: 21087
Epoch time: 93327.46610100
Element set: 370
Inclination: 82.9432 deg
RA of node: 294.9482 deg
Eccentricity: 0.0034102
Arg of perigee: 299.3528 deg
Mean anomaly: 60.4149 deg
Mean motion: 13.74528481 rev/day
Decay rate: 8.4e-07 rev/day^2
Epoch rev: 14131
Checksum: 287

Satellite: RS-12/13
Catalog number: 21089
Epoch time: 93327.59616256
Element set: 614
Inclination: 82.9217 deg
RA of node: 163.9135 deg
Eccentricity: 0.0028927
Arg of perigee: 323.6427 deg
Mean anomaly: 36.2770 deg
Mean motion: 13.74030145 rev/day
Decay rate: 3.0e-07 rev/day^2
Epoch rev: 14041
Checksum: 291

Satellite: ARSENE
Catalog number: 22654
Epoch time: 93321.93138545
Element set: 210
Inclination: 1.4185 deg
RA of node: 113.8817 deg
Eccentricity: 0.2935300
Arg of perigee: 161.0091 deg
Mean anomaly: 211.2000 deg
Mean motion: 1.42195961 rev/day
Decay rate: -5.1e-07 rev/day^2
Epoch rev: 275
Checksum: 241

/EX

Date: 25 Nov 93 03:25:00 GMT

From: news-mail-gateway@ucsd.edu
Subject: ORBS\$328.WEATH.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-328.W
Orbital Elements 328.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
FROM WA5QGD FORT WORTH, TX November 24, 1993
BID: \$ORBS-328.W
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time: 93321.67817478
Element set: 612
Inclination: 99.0821 deg
RA of node: 4.3682 deg
Eccentricity: 0.0015882
Arg of perigee: 95.7490 deg
Mean anomaly: 264.5523 deg
Mean motion: 14.13562457 rev/day
Decay rate: 1.05e-06 rev/day^2
Epoch rev: 46046
Checksum: 314

Satellite: NOAA-10
Catalog number: 16969
Epoch time: 93323.68554173
Element set: 510
Inclination: 98.5133 deg
RA of node: 334.0643 deg
Eccentricity: 0.0012433
Arg of perigee: 218.5417 deg
Mean anomaly: 141.4895 deg
Mean motion: 14.24844816 rev/day
Decay rate: 9.6e-07 rev/day^2
Epoch rev: 37277
Checksum: 316

Satellite: MET-2/17
Catalog number: 18820
Epoch time: 93324.77430959
Element set: 212
Inclination: 82.5425 deg
RA of node: 74.3748 deg
Eccentricity: 0.0017761
Arg of perigee: 49.3727 deg

Mean anomaly: 310.8980 deg
Mean motion: 13.84697976 rev/day
Decay rate: 6.6e-07 rev/day^2
Epoch rev: 29351
Checksum: 344

Satellite: MET-3/2
Catalog number: 19336
Epoch time: 93327.88606867
Element set: 213
Inclination: 82.5382 deg
RA of node: 108.9623 deg
Eccentricity: 0.0018510
Arg of perigee: 57.6406 deg
Mean anomaly: 302.6575 deg
Mean motion: 13.16961911 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 25623
Checksum: 308

Satellite: NOAA-11
Catalog number: 19531
Epoch time: 93323.67891070
Element set: 410
Inclination: 99.1515 deg
RA of node: 302.7055 deg
Eccentricity: 0.0012244
Arg of perigee: 5.6990 deg
Mean anomaly: 354.4307 deg
Mean motion: 14.12933644 rev/day
Decay rate: 1.56e-06 rev/day^2
Epoch rev: 26563
Checksum: 285

Satellite: MET-2/18
Catalog number: 19851
Epoch time: 93325.42782422
Element set: 213
Inclination: 82.5192 deg
RA of node: 309.5566 deg
Eccentricity: 0.0015904
Arg of perigee: 88.4579 deg
Mean anomaly: 271.8419 deg
Mean motion: 13.84349155 rev/day
Decay rate: 1.9e-07 rev/day^2
Epoch rev: 23894
Checksum: 337

Satellite: MET-3/3
Catalog number: 20305
Epoch time: 93326.70726297
Element set: 915
Inclination: 82.5547 deg
RA of node: 53.0394 deg
Eccentricity: 0.0017057
Arg of perigee: 80.9974 deg
Mean anomaly: 279.2674 deg
Mean motion: 13.16023734 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 19595
Checksum: 320

Satellite: MET-2/19
Catalog number: 20670
Epoch time: 93325.62861582
Element set: 713
Inclination: 82.5482 deg
RA of node: 13.3392 deg
Eccentricity: 0.0016493
Arg of perigee: 14.8236 deg
Mean anomaly: 345.3422 deg
Mean motion: 13.84182354 rev/day
Decay rate: 1.5e-07 rev/day^2
Epoch rev: 17190
Checksum: 292

Satellite: FY-1/2
Catalog number: 20788
Epoch time: 93325.69890385
Element set: 818
Inclination: 98.8527 deg
RA of node: 347.3415 deg
Eccentricity: 0.0014034
Arg of perigee: 231.3920 deg
Mean anomaly: 128.6001 deg
Mean motion: 14.01337309 rev/day
Decay rate: 2.80e-06 rev/day^2
Epoch rev: 16464
Checksum: 303

Satellite: MET-2/20
Catalog number: 20826
Epoch time: 93325.46973098
Element set: 712
Inclination: 82.5229 deg
RA of node: 311.2459 deg

Eccentricity: 0.0011806
Arg of perigee: 272.8085 deg
Mean anomaly: 87.1723 deg
Mean motion: 13.83564132 rev/day
Decay rate: 3.0e-07 rev/day^2
Epoch rev: 15903
Checksum: 297

Satellite: MET-3/4
Catalog number: 21232
Epoch time: 93327.43445415
Element set: 617
Inclination: 82.5444 deg
RA of node: 315.0567 deg
Eccentricity: 0.0013262
Arg of perigee: 341.2576 deg
Mean anomaly: 18.8056 deg
Mean motion: 13.16458338 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 12428
Checksum: 286

Satellite: NOAA-12
Catalog number: 21263
Epoch time: 93323.56678881
Element set: 817
Inclination: 98.6421 deg
RA of node: 350.7456 deg
Eccentricity: 0.0013768
Arg of perigee: 121.7860 deg
Mean anomaly: 238.4659 deg
Mean motion: 14.22334412 rev/day
Decay rate: 1.68e-06 rev/day^2
Epoch rev: 13073
Checksum: 314

Satellite: MET-3/5
Catalog number: 21655
Epoch time: 93327.30300481
Element set: 614
Inclination: 82.5541 deg
RA of node: 262.1324 deg
Eccentricity: 0.0013850
Arg of perigee: 356.1728 deg
Mean anomaly: 3.9270 deg
Mean motion: 13.16825241 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 10936

Checksum: 266

Satellite: MET-2/21
Catalog number: 22782
Epoch time: 93325.65877278
Element set: 212
Inclination: 82.5509 deg
RA of node: 10.8972 deg
Eccentricity: 0.0023907
Arg of perigee: 87.2237 deg
Mean anomaly: 273.1663 deg
Mean motion: 13.82992586 rev/day
Decay rate: 1.01e-06 rev/day^2
Epoch rev: 1140
Checksum: 308

/EX

End of Info-Hams Digest V93 #1386

